REMARKS

Claims 1 and 2 have been amended. Claims 1-7 and 9 are currently pending in the application. Support for amended claim 1 can be located at page 9, line 19 - page 12, line 19 of the specification. Support for amended claim 2 can be located in FIG. 2 and accompanying text.

In the amended claims, "first data supply means" is amended to "first data supply means for supplying input data including M pieces of data at every M-point interval on an a-by-a basis in two parallel columns in each set and hence in 2a parallel columns in total to said transform means of a preceding stage from the input data." "Second data supply means" is amended to "second data supply means for supplying the input data including M pieces of data at every M-point interval on an a-by-a basis in two parallel columns in each set and hence in 2a parallel columns in total to said transform means from said transforming result of said transform means of a preceding stage"

In addition, from a definition of a divisor, a divisor of M which is a point for transform in said transform means of a preceding stage and a succeeding stage includes M itself.

Claims 1 and 2 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,831,883 (Suter) in view of U.S. Patent No. 5,694,347 (Ireland).

An object of the present invention is to provide a transform apparatus of a large point for transform using a parallel pipeline FFT of radix 2. Therefore, it is sufficient that the number of the transform means of the preceding stage and the succeeding stage remains to be a = M 12. Accordingly, as a precaution, the number a of the transform means of each stage is amended to restrict to be a divisor of M and equal to or smaller than M/2.

Applicants respectfully submit that the corresponding memory in the Ireland reference undertakes a part of a function of the pipeline FFT. That is, the memory stores each of a first half and a second half of a data array to be transformed, and supplies a pair of data computed in a first stage.

In contrast, a function of the memory circuit in the present invention is for distributing and supplying M pieces of time-series data at every M-pieces interval in two parallel columns of data to each of units of the pipeline FFT circuits.

As you be seen from an explanation of permutation of method 1 of a preceding stage in the specification of the present invention, each pipeline FFT input is in two parallel columns, and

therefore, the two-bank structure is for supplying two pieces of data at the same time. The supplying order of the first data supply means to a specific one radix 2 pipeline FFT circuit will be described hereinafter, as compared with the supplying order of input 16 pieces of data with respect to a 16-point FFT circuit.

In this case, a point for transform of a preceding stage and a succeeding stage M =16, and therefore, a point for transform as a transform apparatus in the present invention is M x M =16 x16 = 256, and one corresponding to 16 pieces of input data in the Ireland reference is a set of 16 pieces of data taken at every 16-piece interval from 256 pieces of data. For example, the 16 pieces of data are: X (16 x 0 = 0), X (16 x1=16), X (16 x 2 =32),X (6x3=48), X (16x4=64), X (16 x 5=80),X(16x6=96),X(16 x7 =112), X (16 x 8 128), x(16 x 9=144), X(16x10 =160), X(16x11=176), x (16 x 12 =192), X (16 x13 = 208), X (16 x 14 = 224), and X (16 x15 = 240) (The supplying order of the 16 pieces of data in accordance with the Ireland reference will be shown hereinafter).

The receiving order in the present invention is as follows (when X (16 x k) =Y (y)):

Received data of an input port 1 - Y{0), Y(2), Y(4), Y(6), Y(8), Y(10), Y(12), and Y(14); and

Received data of an input port 2 - Y(1), Y(3), Y(5), Y(7), Y(9), Y(11), Y(13), and Y(15).

The receiving order in the Ireland reference is as follows (refer to FIGs. 8 to 13 in the Ireland reference):

Received data of an input port 1 - X{0), X(4), x(2), x(6), X(1), x(5), x(3), and X(7); and

Received data of an input port 2 - X(8)> X(12), X(10), X(14), X(9), X(13), X(11), and x(15).

One can conclude that the relative order of time series is apparently different from the Ireland reference.

Therefore, the Ireland reference does not disclose or suggest the data distribution and supplying method by the memory of two-bank structure in the present invention. As Suter does not cure the deficiency of Ireland, Applicants respectfully submit that the claims of the present invention are patentable over the cited combination of references.
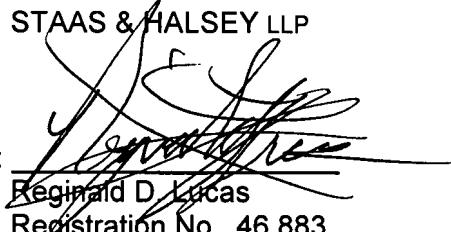
If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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